

Notice of Allowability

Application No.

10/056,930

Applicant(s)

LINDEN ET AL.

Examiner

Tran N. Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to 6/5/03.
2. ☐ The allowed claim(s) is/are 1-3,6 and 7.
3. ☒ The drawings filed on 24 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No. _____.
- (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
- (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1 ☒ Notice of References Cited (PTO-892)
- 3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 5 ☒ Information Disclosure Statements (PTO-1449), Paper No. _____.
- 7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 2 ☐ Notice of Informal Patent Application (PTO-152)
- 4 ☒ Interview Summary (PTO-413), Paper No. _____.
- 6 ☒ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

Examiner's Amendment

1. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicants, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it must be submitted no later than the payment of the Issue Fee.

Please change the following:

In the claim:

In claim 1, line 18, delete "and adapted";

In claim 1, line 22, delete "and adapted"

Delete claims 4-5

Add claims 6-7 as follow:

Claim 6. A coolant system for an internal combustion engine for an automobile comprising:

an engine having flow passages therein to allow coolant to flow through the engine;

a radiator to cool the coolant flowing therethrough;

a heater core to receive heated coolant that has passed through the engine and to provide heated air to a passenger compartment of the automobile;

an alternator having flow passages therein to allow coolant to flow through the alternator, the alternator being positioned up-stream of the heater core such that heat transferred from the alternator to the coolant is utilized by the heater core to provide heated air to a passenger compartment of the automobile, wherein the alternator including an outer housing mounted over an inner housing forming a sealed flow chamber, wherein the sealed flow chamber having a first disk-shaped radial flow channel, a second annular-shaped radial flow channel and an axial

passageway interconnecting between the disk-shaped radial flow channel and the second annular-shaped radial flow channel.

Claim 7. The coolant system of claim 6, wherein the sealed flow chamber being defined by a pair of o-rings positioned between the inner housing and the outer housing; and, the disk-shaped first radial flow channel being defined by opposing first and second disk shaped portions of the inner housing, such that the disk-shaped first flow channel extending diametrically across the alternator; and,

the annual-shaped radial second flow channel being defined by an inner diameter of the outer housing and an outer diameter of the inner housing extending entirely around the alternator; and,

the axial passageway being defined by an arcuate notch formed within the first disk shaped portion of the inner housing such that coolant is directed axially from the first flow channel into the second flow channel through the axial passageway; and, wherein the alternator further including:

an inlet extending from the first flop channel to allow coolant to enter the first flow channel, the inlet being positioned diametrically across from the axial passageway such that coolant entering the inlet must flow diametrically across the alternator to reach the axial passageway; and,

an outlet extending from the second flow channel to allow coolant to exit the flow chamber, the outlet being positioned diametrically across from the axial passageway such that coolant entering the second flow channel must travel angularly around the alternator to reach the outlet;

a shaft rotatable supported within the inner housing by a pair of bearing elements, having a pulley mounted to a first end and a pair of slip rings mounted to a second end;

a rotor assembly including first and second poles mounted onto the shaft with an excitation winding mounted between the first and second poles', and

a stator fixedly mounted within the inner housing in functional engagement with the rotor assembly.

The Examiner's Amendment was authorized by Mr. Eric Sosenko, attorney of record, on 6/5/03.

Allowable Subject Matter

Claims 1-3, 6-7 are allowed.

Reason for Allowability

The following is an examiner's statement of reasons for allowance: the primary reason for the allowance is the including, in combination with other limitations recited in the claims, the limitations of an alternator comprising an outer housing mounted over an inner housing forming a sealed flow chamber, wherein the sealed flow chamber having a first disk-shaped radial flow channel, a second annular-shaped radial flow channel and an axial passageway interconnecting between the disk-shaped radial flow channel and the second annular-shaped radial flow channel; wherein

the sealed flow chamber being defined by a pair of o-rings positioned between the inner housing and the outer housing; and,

the disk-shaped first radial flow channel being defined by opposing first and second disk shaped portions of the inner housing, such that the disk-shaped first flow channel extending diametrically across the alternator; and,

the annular-shaped radial second flow channel being defined by an inner diameter of the outer housing and an outer diameter of the inner housing extending entirely around the alternator; and,

the axial passageway being defined by an arcuate notch formed within the first disk shaped portion of the inner housing such that coolant is directed axially from the first flow channel into the second flow channel through the axial passageway; and, wherein the alternator further including:

an inlet extending from the first flow channel to allow coolant to enter the first flow channel, the inlet being positioned diametrically across from the axial passageway such that coolant entering the inlet must flow diametrically across the alternator to reach the axial passageway; and,

an outlet extending from the second flow channel to allow coolant to exit the flow chamber, the outlet being positioned diametrically across from the axial passageway such that coolant entering the second flow channel must travel angularly around the alternator to reach the outlet.

Comparing to the prior-art of the record, none of the prior art references of the record, either stand alone or in combination, has taught or suggest the above-mentioned features in combination with other limitations recited in the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran Nguyen whose telephone number is (703) 308-1639.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-1782. The fax phone number for this Group is (703) 305-3431 (32).



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PRIMARY PATENT EXAMINER
TC-2800